

# MULTIPLE LOOP TISSUE CONNECTOR

## APPARATUS AND METHODS

### CROSS-REFERENCE TO RELATED DOCUMENTS

The present application is a continuation-in-part of copending patent applications Ser. No. 09/090,305, filed June 3, 1998<sup>PAT NO. 6,641,593</sup> and Ser. No. 09/260,623, filed March 1, 1999<sup>PAT NO. 6,613,059</sup>

### FIELD OF THE INVENTION

The present invention relates to instruments and methods for connecting body tissues, or body tissue to prostheses.

### BACKGROUND OF THE INVENTION

Minimally invasive surgery has allowed physicians to carry out many surgical procedures with less pain and disability than conventional, open surgery. In performing minimally invasive surgery, the surgeon makes a number of small incisions through the body wall to obtain access to the tissues requiring treatment. Typically, a trocar, which is a pointed, piercing device, is delivered into the body with a cannula. After the trocar pierces the abdominal or thoracic wall, it is removed and the cannula is left with one end in the body cavity, where the operation is to take place, and the other end opening to the outside. A cannula has a small inside diameter, typically 5-10 millimeters, and sometimes up to as much as 20 millimeters. A number of such cannulas are inserted for any given operation.

A viewing instrument, typically including a miniature video camera, or optical telescope is inserted through one of these cannulas and a variety of surgical instruments and refractors are inserted through others. The image provided by the viewing device may be displayed on a video screen or television monitor, affording the surgeon enhanced visual control over the instruments. Because a commonly used viewing instrument is called an "endoscope," this type